

City of San Diego Development Services Department Plan Review Division Permit Center • 1222 First Avenue • MS-401 San Diego, CA 92101 (619) 236-6250

# **Building Newsletter 17-1**

Special Inspection and Structural Observation Requirements on Plans

Interpretations of State and Local Building Codes 1994 Uniform Building Code: Chapter 17 Revision Date: January 1996 bnl 03-11/17-01

Page 1 of 2

# I. General

This building newsletter outlines regulations which have been adopted to assure that special inspection and structural observation requirements are clearly and prominently visible on the plans and meet the intent of Sections 106.3 and 1701 of the Uniform Building Code.

# **II. Special Inspection Program**

When special inspection is required by UBC Section 1701, the architect or engineer of record shall prepare an inspection program which shall be submitted to the building official for approval prior to issuance of the building permit. The inspection program shall designate the portions of the work that require special inspection and the name or names of the individuals or firms who are to perform the special inspections, and indicate the duties of the special inspectors.

The special inspector shall be employed by the owner, the engineer or architect of record, or an agent of the owner, but not the contractor or any other person responsible for the work.

The special inspector or firm must be certified by the Field Inspection Services Division of the Development Services Department. Standard forms for the special inspection and observation program are available and may be picked up at Structural Plan Check Division, or at the Field Inspection Services Office.

The summary of work requiring special inspection must be noted on plans.

### **III. Specifying Special Inspection Information**

- A. The designer shall provide on the plans a listing of all the work required to be specially inspected. The list shall be complete and comprehensive and located in a conspicuous place.
  - 1. The following information *must* be provided on that listing or a reference must be provided indicating where it is located on the plans.
    - a. The type of work requiring special inspection (i.e. concrete, high–strength bolts, shotcrete, etc.).
    - b. A description of the work requiring special inspection.
    - c. The sheet numbers of plans or detail number or ICBO approval number where information required to perform those inspections may be found.
    - d. Allowable design stresses of construction mate-

- rials and other pertinent information needed to inspect the work and sample the materials specified.
- Where periodic inspection of the work is intended, an outline of the periodic inspection requirements shall be provided in the project plans. UBC Sec. 1701.6.2.
- 3. When a foundation investigation (soil investigation) is to be performed, the soils investigation report, including date and project number shall be included in the listing.
- 4 . NOTES: The following information shall be provided as footnotes to the special inspection list.
  - a. The special inspections listed are in addition to the called inspections required by Section 108 of the UBC, as amended. Special inspection is not a substitute for inspection by a City Inspector.
  - b. Continuous inspection is always required during the performance of the work unless otherwise specified. When work in more than one category of work requiring special inspection is to be performed simultaneously, or the geographic location of the work is such that it cannot be continuously observed in accordance with the provisions of UBC Section 1701.6.1, it is the agent's responsibility to employ a sufficient number of inspectors to assure that all the work is inspected in accordance with those provisions.
  - c. The special inspectors must be certified by the City of San Diego, Field Inspection Services, to perform the types of inspection specified.

### **Exceptions:**

- Soils inspections, by the soils engineer of record.
- 2. Smoke Control System, by the Mechanical Engineer of record.
- 3. When waived by the Building Official.
- d. It is the responsibility of the contractor to notify the special inspector or inspection agency at least one working day prior to performing any work that requires special inspection.
- Specially inspected work that is installed or covered without the approval of the City Inspector is subject to removal or exposure.
- B. A suggested format for including the above information on the plans has been completed as an example. See page 2 of this building newsletter. A clean copy of the suggested format has also been attached.

# IV. Final Special Inspection Report

The owner or the architect or engineer of record, acting as the owner's agent, must complete and sign a statement certifying satisfactory completion of work requiring special inspection. This statement must be submitted to the Field Inspection Services Division of the Development Services Department. A suggested format has been attached to this building newsletter.

# V. Structural Observation Program

- A. When structural observation is required by Section B, the inspection program shall name the individuals or firms who are to perform structural observation and describe the stages of construction at which structural observation is to occur.
- B. Structural observation shall be provided in Seismic Zone 3 or 4 when one of the following conditions exists:
  - 1. The structure is defined in UBC Table 16–K as Occupancy Category I, II or III, or

- 2. The structure is required to comply with UBC Section 403, or
- When so designated by the architect or engineer of record, or
- 4. When such observation is specifically required by the building official.

The owner shall employ the engineer or architect responsible for the structural design, or another engineer or architect designated by the engineer or architect responsible for the structural design, to perform structural observation as defined in UBC Section 220. Observed deficiencies shall be reported in writing to the owner's representative, special inspector, contractor and the building official. The structural observer shall submit to the building official a written statement that the site visits have been made and identifying any reported deficiencies which, to the best of the structural observer's knowledge, have not been resolved.

#### Attachment A

# **Summary of Special Inspection**

- Concrete
- Bolts installed in concrete
- 3 4 5.1 Concrete moment-resisting space frame Reinforcing steel and prestressing steel All structural welding
- All structural welding
  Weld testing ductile moment-resisting steel frame
  Welding reinforcing steel
  High-strength bolting
  Structural masonry
  Reinforced gypsum concrete
  Insulating concrete fill
  Spray-applied fireproofing
  Deep foundations (piling, drilled & caissons)
  Shotcrete
- 5.2 5.3 6 7 8 9 10 11 12

- Shotcrete

- 13.1 Verify soil conditions are substantially in conformance with the soil
- investigation report Verify that foundation excavations extend to proper depth and 13.2 bearing strata
- Provide soil compaction test results, depth of fill, relative density. 13.3 bearing values
- Provide soil expansion test results, expansion index, recommenda-tions for foundations, on-grade floor stab design for each building 13.4 site Smoke control system Special cases (describe)
- 15
- 16 17
- Off-site fabrication of building components
  Other special inspections as required by designer

(Use additional sheets as needed to provide a comprehensive list)

Description of Type of Inspection Required, Location, Remarks, etc.	Design Strength
ALL CAST-IN-PLACE CONCRETE SHEET S1, GENERAL NOTE SHEAR WALLS	5000 PSI
CONCRETE FILL OVER DECKING	4000 PSI
FOOTINGS, GRADE BEAMS	3000 PSI
STEEL FRAMES SHEETS S1.1, S2.1, S2.14	E-70XX
GENERAL NOTES: STRUCTURAL STEEL, NOTES #4 AND #5	
ALL STRUCTURAL FIELD WELDING	
SHOP WELDING	
NOTE: SEE BUILDING NEWSLETTER FOR OFF-SITE FABRICATION. ALL SHOPS MUST BE APPROVED BY THE CITY OF SAN DIEGO FIELD INSPECTION SERVICES PRIOR TO COMMENCING ANY FABRICATION.	
STRUCTURAL STEEL SHEET, SHEET S1.1, S4.1, S4.3	E70XX
DECK WELDING, SHEET S1.1, DET. 14/S3.1	E70XX
MASONRY, RET. WALL DET. 5/S4.2	F¹m=1500 psi
PLACEMENT OF REINFORCING STEEL AT CONCRETE, SHEET S2.1, DET. 10/S3.1, 11S3.1 GRADE BEAMS AND CAISSONS	Fy=60 ksi
STEEL COLUMNS, BEAMS AND DECKING IDENTIFIED ON PLAN SHEET S2.1	
SOIL ENGINEER TO VERIFY CONDITIONS AND DEPTH OF FOUNDATIONS AND PROVIDE COMPACTION REPORT	2000 psf
SOILS REPORT BY XYZ GEOTECHNICAL AND SOILS ENGINEERING INC. REPORT NO. 90-89112, JANUARY 15, 1995	
EPOXY, ADHESIVE ANCHOR INSTALLATION, DET. 18/S4.1, ICBO 9999	
	ALL CAST-IN-PLACE CONCRETE SHEET S1, GENERAL NOTE  CONCRETE FILL OVER DECKING FOOTINGS, GRADE BEAMS  STEEL FRAMES SHEETS S1.1, S2.1, S2.14  GENERAL NOTES: STRUCTURAL STEEL, NOTES #4 AND #5  ALL STRUCTURAL FIELD WELDING  SHOP WELDING  NOTE: SEE BUILDING NEWSLETTER FOR OFF-SITE FABRICATION. ALL SHOPS MUST BE APPROVED BY THE CITY OF SAN DIEGO FIELD INSPECTION SERVICES PRIOR TO COMMENCING ANY FABRICATION.  STRUCTURAL STEEL SHEET, SHEET S1.1, S4.1, S4.3  DECK WELDING, SHEET S1.1, DET. 14/S3.1  MASONRY, RET. WALL DET. 5/S4.2  PLACEMENT OF REINFORCING STEEL AT CONCRETE, SHEET S2.1, DET. 10/S3.1, 11S3.1 GRADE BEAMS AND CAISSONS  STEEL COLUMNS, BEAMS AND DECKING IDENTIFIED ON PLAN SHEET S2.1  SOIL ENGINEER TO VERIFY CONDITIONS AND DEPTH OF FOUNDATIONS AND PROVIDE COMPACTION REPORT.  SOILS REPORT BY XYZ GEOTECHNICAL AND SOILS ENGINEERING INC. REPORT NO. 90-89112, JANUARY 15, 1995

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- The special inspectors must be certified by the City of San Diego to perform the type of inspection specified.

- Exceptions:
  1. Soils inspections by the soils engineer of record.
  2. Smoke Control System, by the Mechanical engineer of record. When waived by the Building Official.
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  Special cases (describe)
  Off-site fabrication of building components
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# FINAL REPORT FOR SPECIAL INSPECTION AND MATERIAL TESTING

DATE: _	
Ci De Fie 49	uilding Official ty of San Diego evelopment Services Department eld Inspection Division 195 Murphy Canyon Road, Suite 200 an Diego, CA 92123
SUBJEC	SATISFACTORY COMPLETION OF WORK REQUIRING SPECIAL INSPECTION AND MATERIAL TESTING
PERMIT	NO
PROJEC	CT ADDRESS:
and testing is in confitthe application.	under penalty of perjury that, to the best of my knowledge, all the work requiring special inspection, material sampling ng, including the off–site fabrication of building components for the structure/s constructed under the subject permit formance with the approved plans, the inspection and observation program and other construction documents, and cable workmanship provisions of the Uniform Building Code.  d on this day of/
Commer	nts:
TEST	inspection services were provided by an approved material testing laboratory or special inspection agency ING LABORATORY OR SPECIAL INSPECTION AGENCY:
	PONSIBLE MANAGING ENGINEER OF THE TESTING LABORATORY OR SPECIAL INSPECTION AGENCY:
	E (PRINT OR TYPE): Expiration Number: Expiration Date:
SPEC	e inspection services were provided by an independent certified inspector:  CIAL INSPECTOR'S NAME (PRINT OR TYPE):  ISTRATION NUMBER:
SIGN	ATURE:

Note: 1: At your option this form may be stored electronically and reproduced on your company's letterhead. (Revised 11/95)